ELSEVIER

Gene Structure and Expression

Vol. 1400, No. 1–3; 1 October 1998

BIOCHIMICA ET BIOPHYSICA ACTA
BBA

Contents

BBA is cited in: Current Contents/Life Sciences - Biological Abstracts - Chemical Abstracts - Index Chemicus - Index Medicus/MEDLINE - Cambridge Scientific Abstracts (CSA) - EMBASE/Excerpta Medica - Reference Update - Elsevier BIOBASE/Current Awareness in Biological Sciences

Information for Contributors ix

Reviews

Preface 1

Structure of DNA topoisomerases
J.M. Berger (USA) 3

Bacterial and archeal type I topoisomerases
Y.-C. Tse-Dinh (USA) 19

DNA gyrase and topoisomerase IV: biochemical activities, physiological roles during chromosome replication, and drug sensitivities
C. Levine, H. Hiasa and K.J. Marians (USA) 29

Clinical applications of quinolones
D.C. Hooper (USA) 45

Investigating the biological functions of DNA topoisomerases in eukaryotic cells
J.L. Nitiss (USA) 63

Mechanism of action of eukaryotic DNA topoisomerase I and drugs targeted to the enzyme
Y. Pommier, P. Pourquier, Y. Fan and D. Strumberg (USA) 83

Clinical applications of the camptothecins
C.H. Takimoto, J. Wright and S.G. Arbuck (USA) 107

Physiological regulation of eukaryotic topoisomerase II
R.J. Isaacs, S.L. Davies, M.I. Sandri, C. Redwood, N.J. Wells and I.D. Hickson (UK) 121

Mechanism of action of eukaryotic topoisomerase II and drugs targeted to the enzyme
D.A. Burden and N. Osheroff (USA) 139

Catalytic inhibitors of DNA topoisomerase II
T. Andoh and R. Ishida (Japan) 155

Clinical applications of anticancer drugs targeted to topoisomerase II
K.R. Hande (USA) 173

DNA sequence selectivity of topoisomerases and topoisomerase poisons
G. Capranico and M. Binaschi (Italy) 185

Cell death induced by topoisomerase-targeted drugs: more questions than answers
S.H. Kaufmann (USA) 195

Mutagenic properties of topoisomerase-targeted drugs
B.C. Baguley and L.R. Ferguson (New Zealand) 213

The response of eukaryotic topoisomerases to DNA damage
P.S. Kingma and N. Osheroff (USA) 223

Secondary leukemias induced by topoisomerase-targeted drugs
C.A. Felix (USA) 233

Cellular resistance to topoisomerase-targeted drugs: from drug uptake to cell death
A.K. Larsen and A. Skladanowski (France, Poland) 257

Clinical resistance to topoisomerase-targeted drugs
A.-M.C. Dingemans, H.M. Pinedo and G. Giaccone (The Netherlands) 275

Yeast as a model organism for studying the actions of DNA topoisomerase-targeted drugs
R.J.D. Reid, P. Benedetti and M.-A. Bjornsti (Italy, USA) 289

Animal models for studying the action of topoisomerase I targeted drugs
J. Thompson, C.F. Stewart and P.J. Houghton (USA) 301

Vaccinia virus DNA topoisomerase: a model eukaryotic type IB enzyme
S. Shuman (USA) 321

Bacteriophage T4, a model system for understanding the mechanism of type II topoisomerase inhibitors
K.N. Kreuzer (USA) 339

DNA topoisomerases: a new twist for antiparasitic chemotherapy?
E.C. Nenortas, A. L. Bodley and T.A. Shapiro (USA) 349

Author Index 355